

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
29 March 2001 (29.03.2001)

PCT

(10) International Publication Number
WO 01/21650 A3

- (51) International Patent Classification⁷: **C12N 15/54**,
9/10, 15/82, C12Q 1/68
- (21) International Application Number: **PCT/US00/25856**
- (22) International Filing Date:
21 September 2000 (21.09.2000)
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/155,046 21 September 1999 (21.09.1999) **US**
- (71) Applicant (for all designated States except US): **E.I. DU PONT DE NEMOURS AND COMPANY [US/US];** 1007 Market Street, Wilmington, DE 19898 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **COLDREN, Chris [US/US];** 56-270 77 Massachusetts Avenue, Cambridge,
- MA 02137 (US). **FLINT, Dennis [US/US];** 31 Tenby Chase Drive, Newark, DE 19711 (US). **HALLAHAN, David, L. [IE/US];** 5117 New Kent Road, Wilmington, DE 19808 (US). **WANG, Hong [US/US];** 605 Kazio Court, Kennett Square, PA 19348 (US).
- (74) Agent: **FELTHAM, S., Neil;** E.I. Du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).
- (81) Designated States (national): **AU, BR, CA, ID, IN, KR, US.**
- (84) Designated States (regional): **European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).**
- Published:
— with international search report
- (88) Date of publication of the international search report:
13 December 2001

[Continued on next page]

(54) Title: **CIS-PRENYLTRANSFERASES FROM PLANTS**

1 50

M.lutUPPS (SEQ ID NO:24) (1) -----

Yeaststr1 (SEQ ID NO:28) (1) -----MKMPSIIQIQFVALKRLLVETKEQCMCF

Yeastrer2 (SEQ ID NO:26) (1) -----METDSGIP

dms2c.pk005.c7 (SEQ ID NO:2) (1) -----MLNLPYLPKYP-----CYFPASLSTNHRGLYVF

ecslc.pk009.p19 (SEQ ID NO:4) (1) -----

ehb2c.pk001.i10 (SEQ ID NO:6) (1) -----MELYNG

ehb2c.pk001.d17 (SEQ ID NO:8) (1) -----MELYNG

ehb2c.pk001.o18 (SEQ ID NO:10) (1) -----MEITYTG

vdb1c.pk001.k23 (SEQ ID NO:12) (1) ML5FRFPISADNARHTFKSKHSSCTFRSNRIDSFSFPPI5VPRFHLRTA

r10n.pk117.i23 (SEQ ID NO:14) (1) -----

rr1.pk0050.h8 (SEQ ID NO:16) (1) -----MLGSLMSYLPVSDSKTENTDEL

s11.pk0128.h7 (SEQ ID NO:18) (1) MFSLRLPIPLVKTTPSPSCYSHYHYRYRYRCHYPPFHRSTQSLVSK

wdk5c.pk005.f22 (SEQ ID NO:20) (1) -----MPLSN

51 100

M.lutUPPS (SEQ ID NO:24) (1) -----MPPIKKRKAIKNN-----INAAQI

Yeaststr1 (SEQ ID NO:28) (28) AVKSI FORVFAVMHSLSLFSWFFYNLQNILKARVGPVEEISGSSYDGI

Yeastrer2 (SEQ ID NO:26) (9) GHSEFLKWTKNIFSRTL-----ASNCVEREISGSSYDGI

dms2c.pk005.c7 (SEQ ID NO:2) (31) NQSDTTGGGINSLEERIT-----PAGEKHELMKIVVMDGI

ecslc.pk009.p19 (SEQ ID NO:4) (1) -----MKKIAEISGSSYDGI

ehb2c.pk001.i10 (SEQ ID NO:6) (7) ERPSFRLLGKYMKGGLY-----SITOGPIITLISGSSYDGI

ehb2c.pk001.d17 (SEQ ID NO:8) (7) ERPSFRLLEKYMKGGLY-----SITOGPIITLISGSSYDGI

ehb2c.pk001.o18 (SEQ ID NO:10) (7) QRPSEFRIFGKYMKGGLY-----SITOGPIITLISGSSYDGI

vdb1c.pk001.k23 (SEQ ID NO:12) (51) KTDVGEEEAREVNRAEEF-----PDGRRLELMERIVVMDGI

r10n.pk117.i23 (SEQ ID NO:14) (1) -----MKKIAEISGSSYDGI

rr1.pk0050.h8 (SEQ ID NO:16) (23) IATGELASLQNFIRKCI-----AVSYGPMKIVVMDGI

s11.pk0128.h7 (SEQ ID NO:18) (51) RGSALAKCHADSVTLRDDGVSLAQESLEPLPAEIAAEMMKIVVMDGI

wdk5c.pk005.f22 (SEQ ID NO:20) (6) STSSPAVTVPAAEELS-----QGIRAESLFRIVVMDGI

101 150

M.lutUPPS (SEQ ID NO:24) (32) GNNKKMKRIKHYEEMQTVKKITRYASDLRYLLVAGSTEMWSIP

(57) Abstract: This invention pertains to nucleic acid fragments encoding plant proteins that are homologs to the *cis*-prenyltransferases UPP synthase from the bacterium *Micrococcus luteus* or Dedol-PP synthase from yeast *Saccharomyces cerevisiae*. More specifically, this invention pertains to *cis*-prenyltransferase homologs from wheat, grape, soybean, rice, African daisy, rubber tree latex and pot marigold.

WO 01/21650 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.